

REMARKS

Claims 1, 3, and 5 to 11 are pending in the application; claims 2 and 4 have been canceled.

Drawings

The examiner objects to the drawings because the cutting device of claim 2 and the movement sensor of claim 5 are not shown.

Claim 2 has been canceled.

Claim 5 has been amended to eliminate the "movement sensor". The word "thumb wheel" has been changed to "starwheel" as this appears to be a more appropriate term for the wheel shown in the drawing (see e.g. the wheel 18 in *US 5,782,175 - Schrag*). The specification (paragraph 0016) has been amended to introduce this term.

Claim Objections

In claim 1 "binding device" has been changed to "tying device" (properly introduced in line 13 of claim 1).

Rejection under 35 U.S.C. 103

Claims 1, 2, 7-11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Lippens et al. (US 6,134,870)* and *Rewitzer (US 4,526,094)*.

Claim 3 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Lippens et al. (US 6,134,870)* and *Rewitzer (US 4,526,094)* and further in view of *Mesmer et al. (US 6,708,478)*.

Claims 4 and 5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Lippens et al. (US 6,134,870)* and *Rewitzer (US 4,526,094)* and further in view of *Schrag (US 5,782,175)*.

Claim 6 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Lippens (US 6,134,870)* and *Rewitzer (US 4,526,094)* and further in view of *Innes (2,030,031)*.

Claims 1 and 7 have been amended to include the features of claim 4; claim 4 has been rejected in view of the combination of references *Lippens (US 6,134,870)*, *Rewitzer (US 4,526,094)*, and further in view of *Schrag (US 5,782,175)*. Therefore, the combined teachings of these references will be addressed in regard to amended claims 1 and 7.

Claim 1 defines a device for determining and controlling bale length on a pick-up

baler for agricultural harvested material. The device comprises at least one sensor that measures an actual length change of the bale after completion of the feed stroke and the subsequent pressing stroke of the pressing piston. An electronic evaluation device is connected to the at least one sensor. The at least one sensor supplies the measured actual length change to the electronic evaluation device. The measured actual length change is converted into at least one of an averaged operand and a statistical operand for determining a required number of the feed strokes for approximately reaching a preset nominal bale length, wherein, after completion of the computed nominal number of feed strokes, the tying device is triggered.

Claim 7 as amended concerns a method for determining and controlling a bale length on a pick-up baler for agricultural harvested material, comprising the steps of:

measuring an actual length change with at least one sensor for each bale growth step that is defined by completion of a feed stroke moving harvested material from the feed channel into the pressing channel and a subsequent pressing stroke compressing the harvested material;

sending the measured actual length change values of the bale growth steps to an electronic evaluation device;

converting the measured actual length change values of the bale growth steps in the electronic evaluation device into an averaged operand and/or a statistical operand.

The inventive principle thus resides in the measurement of the actual length change for each bale growth step and, based on the measured actual length change, the determination of an averaged operand and/or a statistical operand. The required number of feed strokes for reaching a preset nominal bale length is determined and, after completion of the computed nominal number of feed strokes, the tying device is triggered.

Lippens discloses, according to the examiner, a baler with a pick-up, a feed channel, a pressing channel, a conveying device for feeding material in a feed stroke from the feed channel into the pressing channel, a pressing piston and a tying device. According to the examiner *Lippens* fails to disclose a sensor for detecting the bale growth from compression of the harvested material and an electronic evaluation device. The reference further lacks the feature of supplying the bale growth value to the evaluation device so that the required

number of feed strokes for the nominal bale length can be determined, wherein the tying device is triggered when the nominal number of feed strokes is completed.

Rewitzer is cited to show a sensor for detecting bale growth and supplying bale growth values to an evaluation device where conversion to averaged operands for determining the required number of feed strokes is performed. According to the examiner it would be obvious to employ the sensor of *Rewitzer* on a baling device in order to provide bales of identical size.

Schrag is cited as showing a sensor 16/18 for measure the bale length.

Rewitzer concerns a device for packing staple fibers into bales of **identical weight**. Transportable press containers 17 are used in combination with load-measuring device 18 including a load cell 30 for weighing the press containers 17 and their contents. The weight increase of the press container 17 for each stroke of the clearing device 2 can be determined and the total stroke number required for reaching a predetermined bale weight is calculated. *Rewitzer* therefore teaches that a **sensor for measuring the weight** of the added material is needed and that the container receiving the material with each stroke of the press is to be weighed. It is not possible to combine the weight measuring device and the vertical feed and vertical press disclosed in *Rewitzer* with the baler disclosed in *Lippens et al.* because *Lippens et al.* is designed to pick up harvested material from the field (pick-up 14) while being moved across the field (pulled by a tractor). The material is compressed in the baling chamber (18), the material is tied by a tying mechanism (32) to a bale that is discharged at the end of the baling chamber (discharge means 36) in a continuous process. The baler continuously moves across the field to collect the harvested material in a substantially horizontal feed direction; it continuously ties and discharges bales. It is impossible to combine the baler with exchangeable transport containers and a load-cell arrangement for weighing each bale as it is formed.

Moreover, it is respectfully submitted that the present invention as claimed in claims 1 and 7 is based on **measuring the actual length change** of the bale and not the weight increase of the collected material. It is not seen how a weight measuring device for weighing a transport container can make obvious a length measuring device for measuring the actual length change of the bale after each feed stroke and pressing stroke. A

combination of the teachings of *Lippens et al.* and *Rewitzer* is not obvious.

Schrag discloses a bale length sensor 16, 18 that determines when the bale has reached its full length. At this point, a clutch 20 of a knotter stack is mechanically engaged and the bale is tied. *Schrag* only teaches that when the desired bale length has been reached after continuous measurement of the length of the advancing bale, a knotting operation for tying the bale is to be started. There is no teaching as to how the bale length sensor could be used to measure the actual length change after each feed stroke and pressing stroke. There is moreover no suggestion or motivation to measure the actual length change after each feed stroke and pressing stroke as the goal is to determine when the bale being formed has the required length.

Claims 1 and 7 are therefore not obvious in view of the cited references. Claims 3, 5, 6, 8-11 are believed to be allowable as dependent claims of claims 1 and 7, respectively.

Reconsideration and withdrawal of the rejection of the claims pursuant to 35 USC 103 are therefore respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited. Should the Examiner have any further objections or suggestions, the undersigned would appreciate a phone call or e-mail from the examiner to discuss changes to place the application into condition for allowance.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on December 30, 2005,


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